The following listing of claims will replace all prior versions and/or listings of claims in the application.

Listing of Claims:

1. (Currently amended). A computer-implemented method for creating a motion control sequence, the method comprising:

displaying a graphical user interface ~~(GUI)~~ that provides graphical user interface ~~GUI~~ access to a set of motion control operations;

receiving user input to the graphical user interface specifying a ~~the~~ sequence of motion control operations;

automatically generating a graphical program implementing the specified sequence of motion control operations; and

performing the specified sequence of motion control operations.

2. (Original) The method of claim 1, further comprising:

storing information representing the specified sequence of motion control operations in a data structure in response to said receiving user input specifying the sequence of motion control operations.

3. (Original) The method of claim 2,

wherein the information does not comprise programming language code.

4. (Cancelled).

5. (Original) The method of claim 2,

wherein said receiving user input to the graphical user interface specifying the sequence of motion control operations comprises receiving user input to the graphical

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user interface specifying parameter values for one or more motion control operations in the sequence;

wherein said storing information representing the specified sequence of motion control operations comprises storing the parameter values;

wherein said performing the sequence of motion control operations comprises executing software routines corresponding to motion control operations in the sequence, wherein said executing comprises passing the parameter values to the software routines.

6. (Currently amended) The method of claim 1,

wherein said receiving user input to the graphical user interface specifying a ~~desired~~ sequence of motion control operations does not include receiving user input specifying programming language code to implement the sequence of motion control operations.

7. (Original) The method of claim 1,

wherein the motion control sequence is operable to control motion of a device.

8. (Cancelled).

9. (Cancelled).

10. (Currently amended) The method of claim 1, ~~further comprising:~~ <u>wherein automatically generating a graphical program comprises:</u>

creating program instructions executable to perform the specified sequence of motion control operations;

wherein said performing the specified sequence of motion control operations comprises executing the program instructions.

11. (Original) The method of claim 1, further comprising:

receiving user input to the graphical user interface for configuring one or more of the motion control operations in the sequence;

wherein, for each motion control operation, said configuring the motion control operation affects the motion control which the operation is operable to perform.

12. (Original) The method of claim 11,

wherein said receiving user input to the graphical user interface for configuring one or more of the motion control operations in the sequence does not include receiving user input specifying programming language code to configure the motion control operations.

13. (Currently amended) The method of claim 11, further comprising:

for each motion control operation to be configured, displaying a graphical panel including graphical user interface elements for setting one or more properties of the motion control operation and receiving user input to the graphical panel to set one or more properties of the motion control operation.

14. (Original) The method of claim 13, further comprising:

automatically displaying the graphical panel in response to adding the motion control operation to the sequence.

15. (Original) The method of claim 13, further comprising:

receiving user input requesting to configure a first motion control operation; and

displaying a graphical panel for configuring the first motion control operation in response to the request.

16. (Original) The method of claim 1,

wherein the graphical user interface includes an area which visually represents the motion control operations in the sequence;

wherein the method further comprises:

for each motion control operation added to the sequence, updating the area visually representing the motion control operations in the sequence to illustrate the added motion control operation.

17. (Original) The method of claim 16,

wherein the area visually representing the motion control operations in the sequence displays a plurality of icons, wherein each icon visually indicates one of the motion control operations in the sequence;

wherein said updating the area visually representing the motion control operations in the sequence to illustrate the added motion control operation comprises displaying a new icon to visually indicate the added motion control operation.

18. (Original) The method of claim 1,

wherein the graphical user interface displays a plurality of buttons, wherein each button is operable to add a new motion control operation to the sequence in response to user input;

wherein said receiving user input to the graphical user interface specifying the sequence of motion control operations comprises receiving user input to the plurality of buttons to create the sequence of motion control operations.

19. (Original) The method of claim 1,

wherein the set of motion control operations includes:

     a straight line move operation;

     an arc move operation; and

     a contoured move operation.

20. (Original) The method of claim 1, further comprising:

displaying one or more views of the sequence of motion control operations on the graphical user interface, wherein the one or more views graphically preview the cumulative movement specified by the sequence of motion control operations.

21. (Currently amended) The method of claim 20,

wherein the one or more views includes a two-dimensional position view for viewing a two-dimensional display of position data of the sequence in one or more of an XY, YZ, or ZX plane. (Original)

22. (Original) The method of claim 20,

wherein the one or more views includes a three-dimensional position view for viewing a three-dimensional display of position data of the sequence.

23. (Currently amended) The method of claim 1, wherein said automatically generating a graphical program implementing the specified sequence of motion control operations comprises programmatically generating a graphical program operable to perform the specified sequence of motion control operations the method further comprising:

and wherein performing the specified sequence comprises executing the graphical program to perform the specified sequence of motion control operations.

24. (Original) The method of claim 23,

wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program.

25. (Original) The method of claim 23,

wherein the graphical program comprises a graphical data flow program.

26. (Cancelled).

27. (Original) The method of claim 1, further comprising:

receiving a request from a computer program to execute the sequence of motion control operations, wherein the computer program was not used to create the sequence of motion control operations; and

executing the specified sequence of motion control operations in response to the request.

28. (Original) The method of claim 1, further comprising:

programmatically converting the sequence of motion control operations to a format usable for configuring an embedded device to perform the sequence of motion control operations; and

configuring the embedded device to perform the sequence of motion control operations using the format.

29. (Currently amended) A computer-implemented method for creating a motion control sequence, the method comprising:

displaying a graphical user interface (GUI) that provides graphical user interface GUI access to a set of motion control operations;

receiving user input to the graphical user interface specifying a the sequence of motion control operations;

automatically generating a graphical program implementing the specified sequence of motion control operations; and

storing information representing the specified sequence of motion control operations in a data structure.

30. (Original) The method of claim 29,
wherein the information does not comprise programming language code.

31. (Original) The method of claim 29, further comprising:
performing the specified sequence of motion control operations.

32. (Currently amended) A computer-implemented method for creating a motion control prototype, the method comprising:

receiving user input specifying a desired sequence of motion control operations;

recording the specified sequence of motion control operations in a data structure, wherein the specified sequence of motion control operations comprises the motion control prototype; and

automatically generating a graphical program implementing the specified sequence of motion control operations;

wherein the motion control prototype is useable to control a motion device.

33. (Original) The method of claim 32, further comprising:

performing the specified sequence of motion control operations to control the motion device.

34. (Original) The method of claim 32, further comprising:

displaying a set of motion control operations;

wherein the user input comprises user input selecting two or more motion control operations from the set of motion control operations.

35. (Currently amended) A memory medium for creating a motion control sequence, the memory medium comprising program instructions executable to:

display a graphical user interface (GUI) that provides graphical user interface GUI access to a set of motion control operations;

receive user input to the graphical user interface specifying a the sequence of motion control operations;

automatically generating a graphical program implementing the specified sequence of motion control operations; and

perform the specified sequence of motion control operations.

36. (Original) The memory medium of claim 35, further comprising program instructions executable to:

store information representing the specified sequence of motion control operations in a data structure in response to said receiving user input specifying the sequence of motion control operations.

37. (Original) The memory medium of claim 36,

wherein the information does not comprise programming language code.

38. (Original) The memory medium of claim 36, further comprising program instructions executable to:

access the information representing the sequence of motion control operations to determine program instructions corresponding to motion control operations in the sequence; and

execute the program instructions, wherein said performing the specified sequence of motion control operations comprises executing the program instructions.

39. (Original) The memory medium of claim 36,

wherein said receiving user input to the graphical user interface specifying the sequence of motion control operations comprises receiving user input to the graphical user interface specifying parameter values for one or more motion control operations in the sequence;

wherein said storing information representing the specified sequence of motion control operations comprises storing the parameter values;

wherein said performing the sequence of motion control operations comprises executing software routines corresponding to motion control operations in the sequence, wherein said executing comprises passing the parameter values to the software routines.

40. (Original) The memory medium of claim 35,

wherein said receiving user input to the graphical user interface specifying a desired sequence of motion control operations does not include receiving user input specifying programming language code to implement the sequence of motion control operations.

41. (Original) The memory medium of claim 35,

wherein the motion control sequence is operable to control a device to move an object.

42. (Currently amended)   A system for creating a motion control sequence, the system comprising:

a processor;

a memory storing program instructions;

a display device;

wherein the processor is operable to execute the program instructions stored in the memory to:

display a graphical user interface ~~(GUI)~~ that provides <u>graphical user interface</u> ~~GUI~~ access to a set of motion control operations on the display device;

receive user input to the graphical user interface specifying <u>a</u> ~~the~~ sequence of motion control operations;

automatically generate a <u>graphical</u> program implementing the specified sequence of motion control operations; and

execute the specified sequence of motion control operations.

43. (Original) The system of claim 42, further comprising:

a motion control device;

wherein said processor executing the program instructions to execute the specified sequence of motion control operations comprises the processor executing the specified sequence of motion control operations to control the motion control device.

44. (Currently amended)   A system for creating a motion control sequence, the system comprising:

means for displaying a graphical user interface ~~(GUI)~~ that provides <u>graphical user</u> <u>interface</u> ~~GUI~~ access to a set of motion control operations;

means for receiving user input to the graphical user interface specifying <u>a</u> ~~the~~ sequence of motion control operations;

means for automatically generating a <u>graphical</u> program implementing the specified sequence of motion control operations; and

means for performing the specified sequence of motion control operations.

45.   (New) The method of claim 1, further comprising compiling the graphical program into executable compiled code.

46.   (New) The method of claim 1, wherein receiving user input specifying a sequence of motion control operations comprises the user selecting at least two motion control icons, and wherein the automatically generated graphical program is distinct from the motion control icons.

47.   (New) The method of claim 1, wherein the automatically generated graphical program is modifiable by a user without the user having to modify the sequence of motion control operations.

48.   (New) The method of claim 1, wherein automatically generating the graphical program includes generating graphical code comprising a plurality of interconnected nodes without direct user input specifying the plurality of interconnected nodes or connections between the nodes.